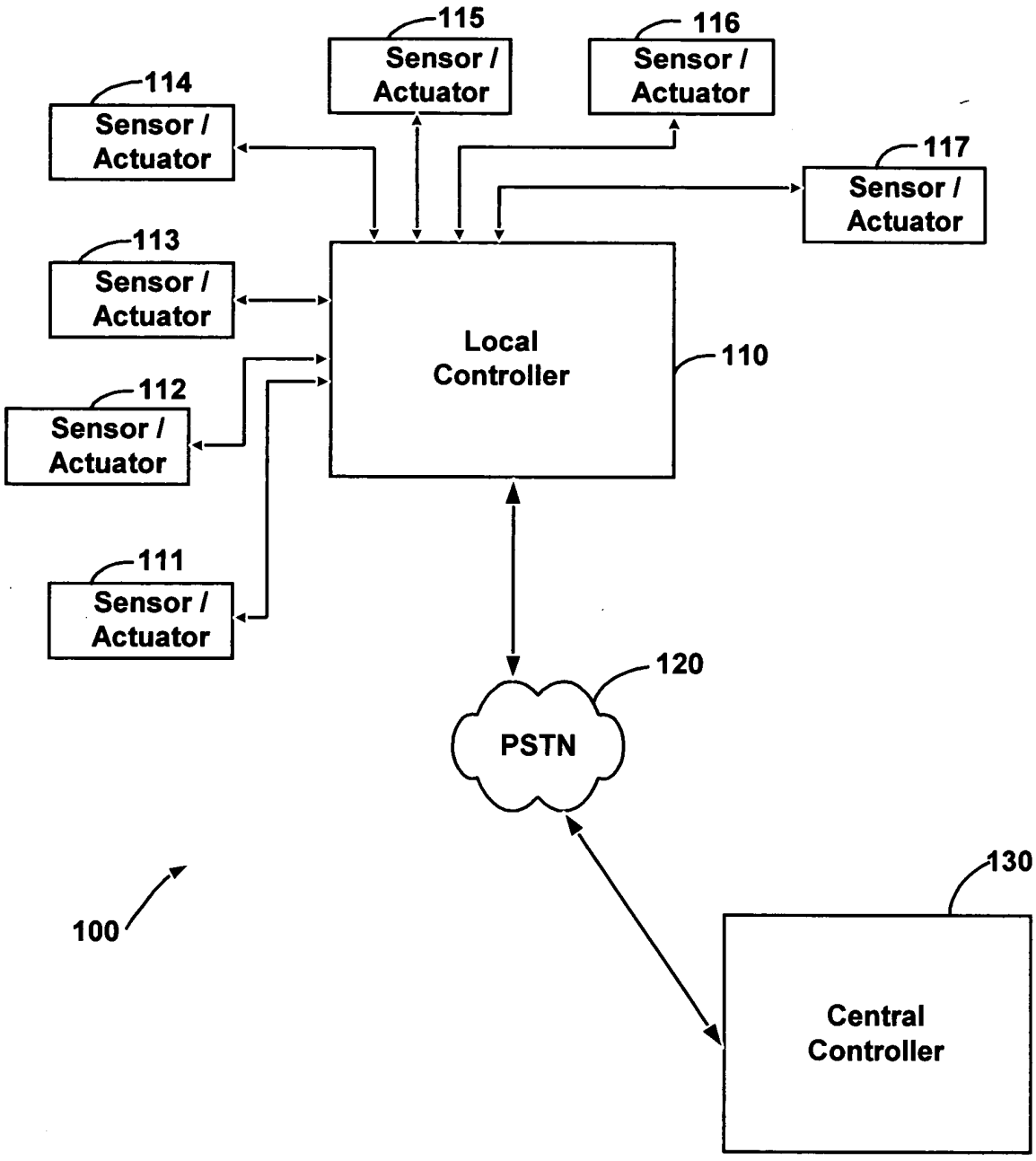

FIG. 1
(PRIOR ART)

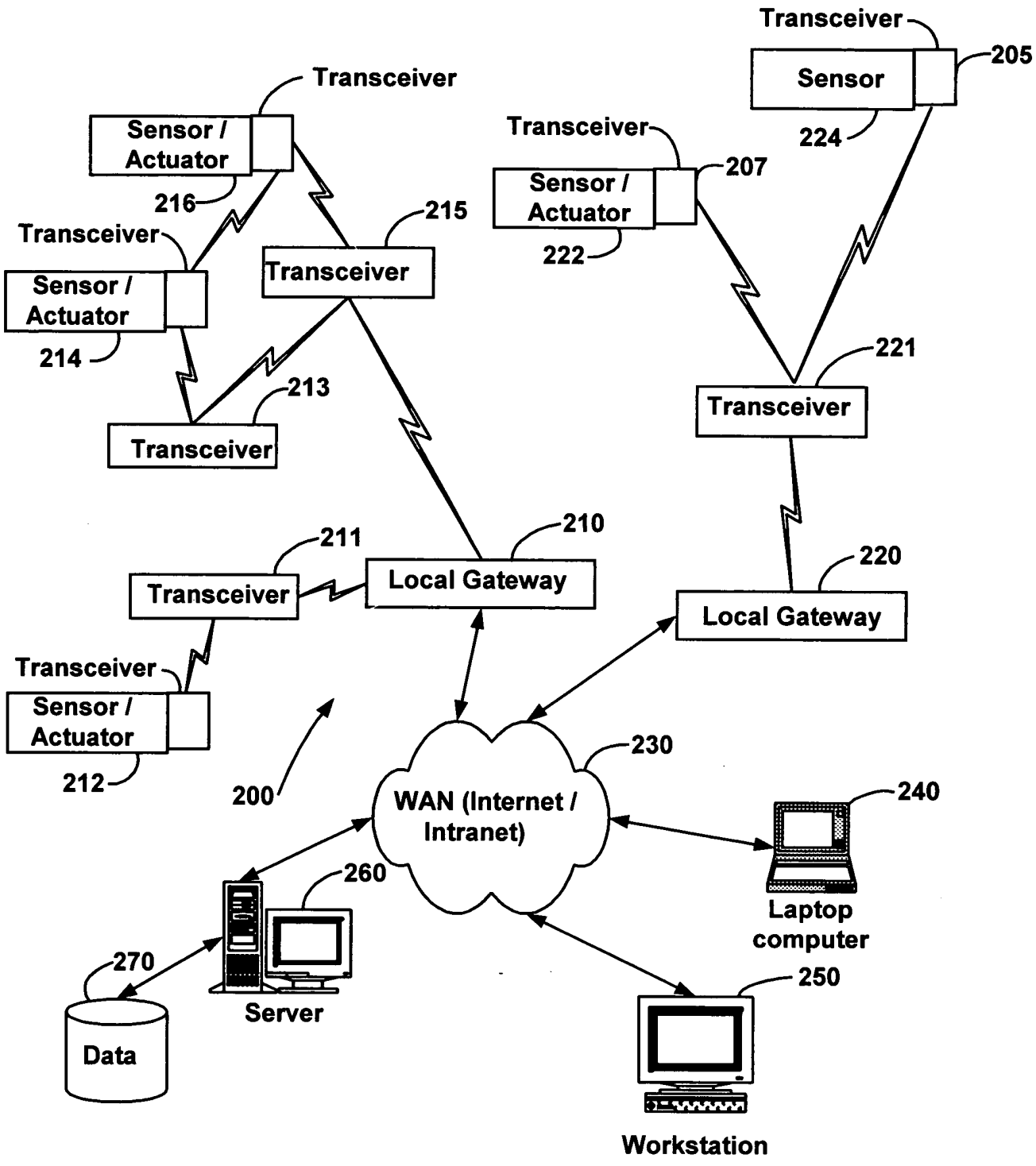
Transceiver
205
Sensor
224
Transceiver
Sensor / Actuator
207
222
Transceiver
Sensor / Actuator
216
215
Transceiver
Transceiver
Sensor / Actuator
214
213
Transceiver
221
Transceiver
211
210
Transceiver
Local Gateway
220
Local Gateway
Transceiver
Sensor / Actuator
212
200
230
WAN (Internet / Intranet)
240
Laptop computer
260
270
Server
Data
250
Workstation

FIG. 2

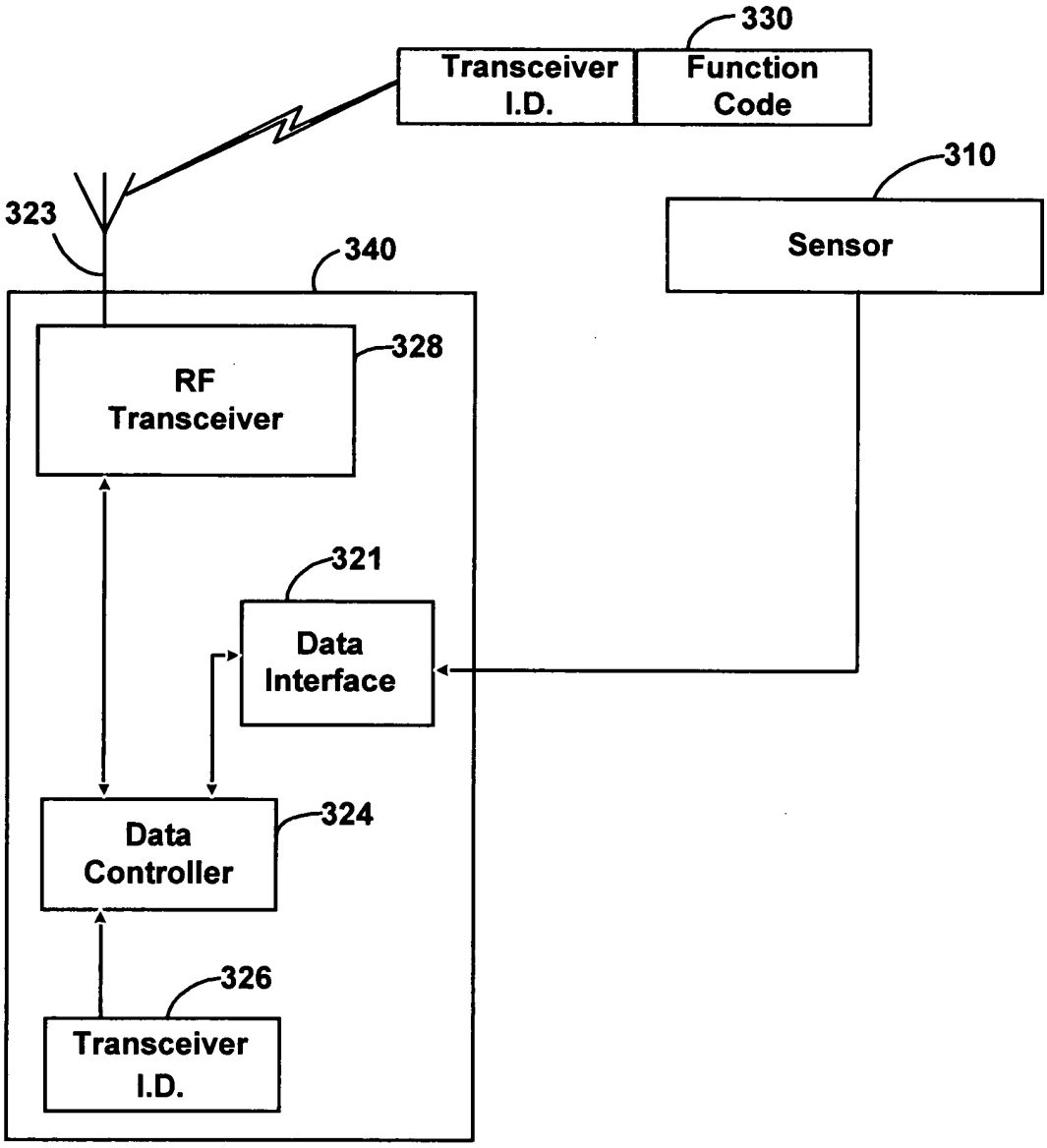
330
Transceiver I.D.
Function Code
310
Sensor
323
340
RF Transceiver
328
321
Data Interface
Data Controller
324
326
Transceiver I.D.

FIG. 3

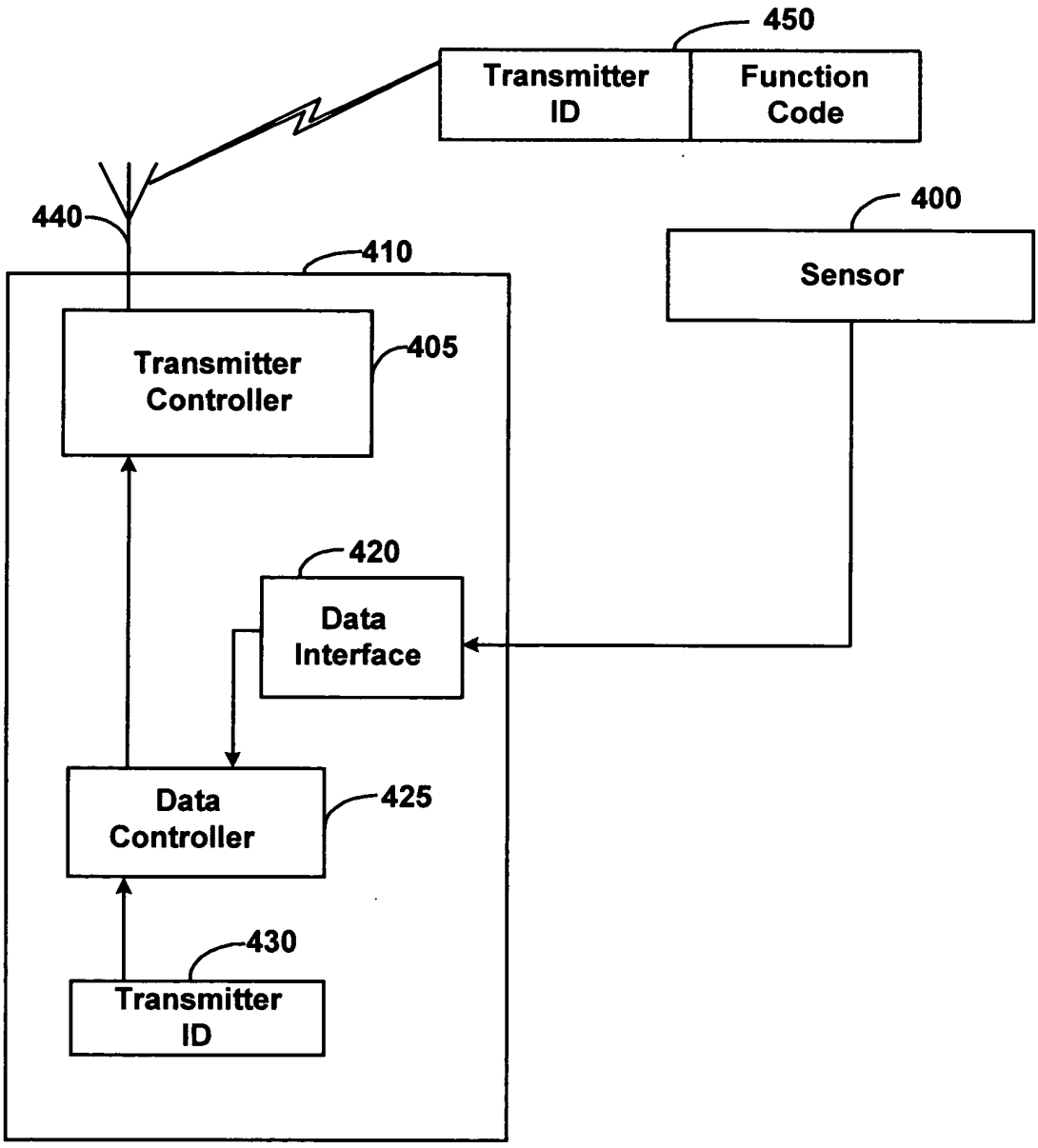
450
Transmitter ID
Function Code
440
400
Sensor
410
Transmitter Controller
405
420
Data Interface
Data Controller
425
430
Transmitter ID

FIG. 4

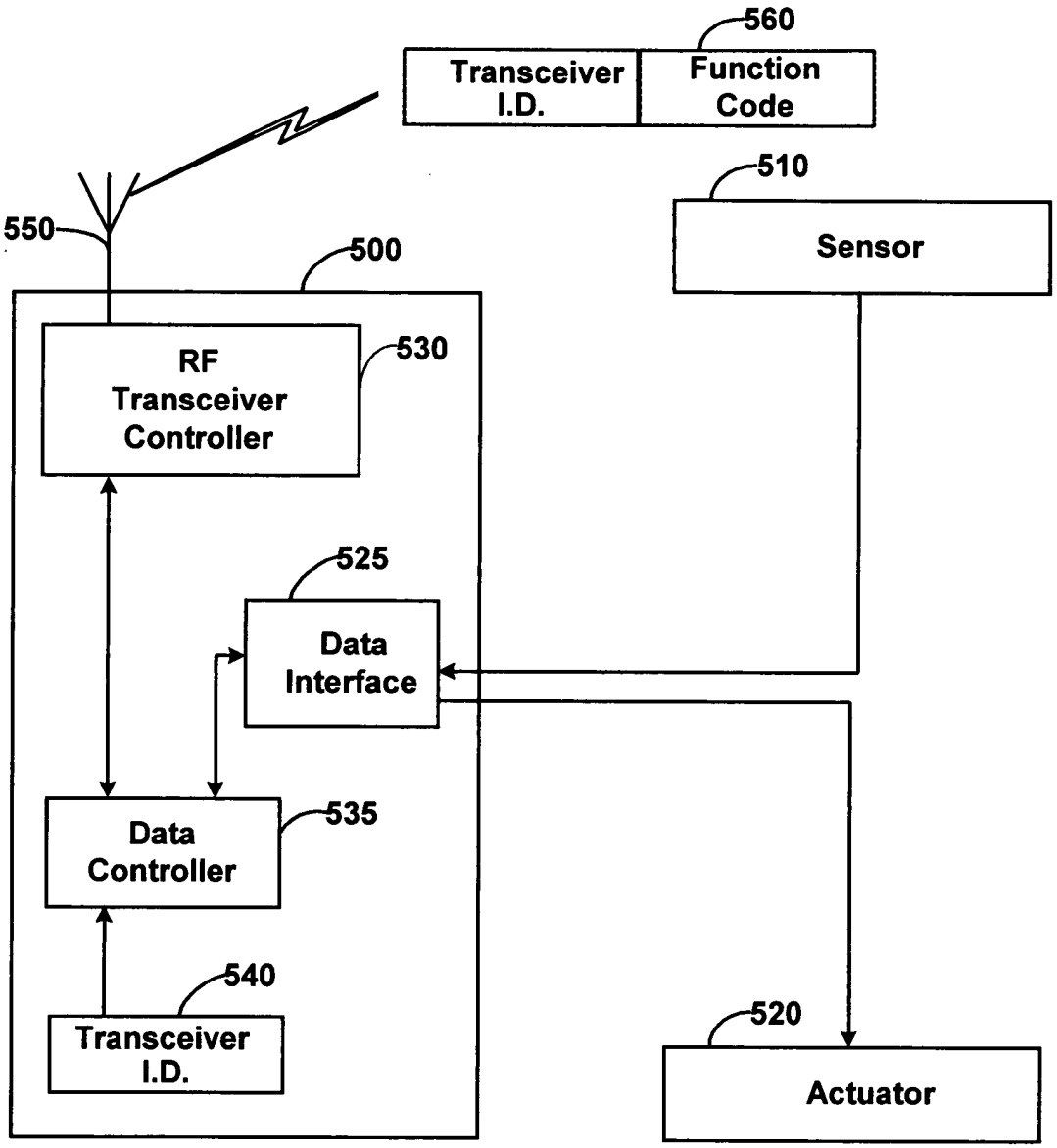
560
Transceiver I.D.
Function Code
510
Sensor
550
500
RF Transceiver Controller
530
525
Data Interface
Data Controller
535
540
Transceiver I.D.
520
Actuator

FIG. 5

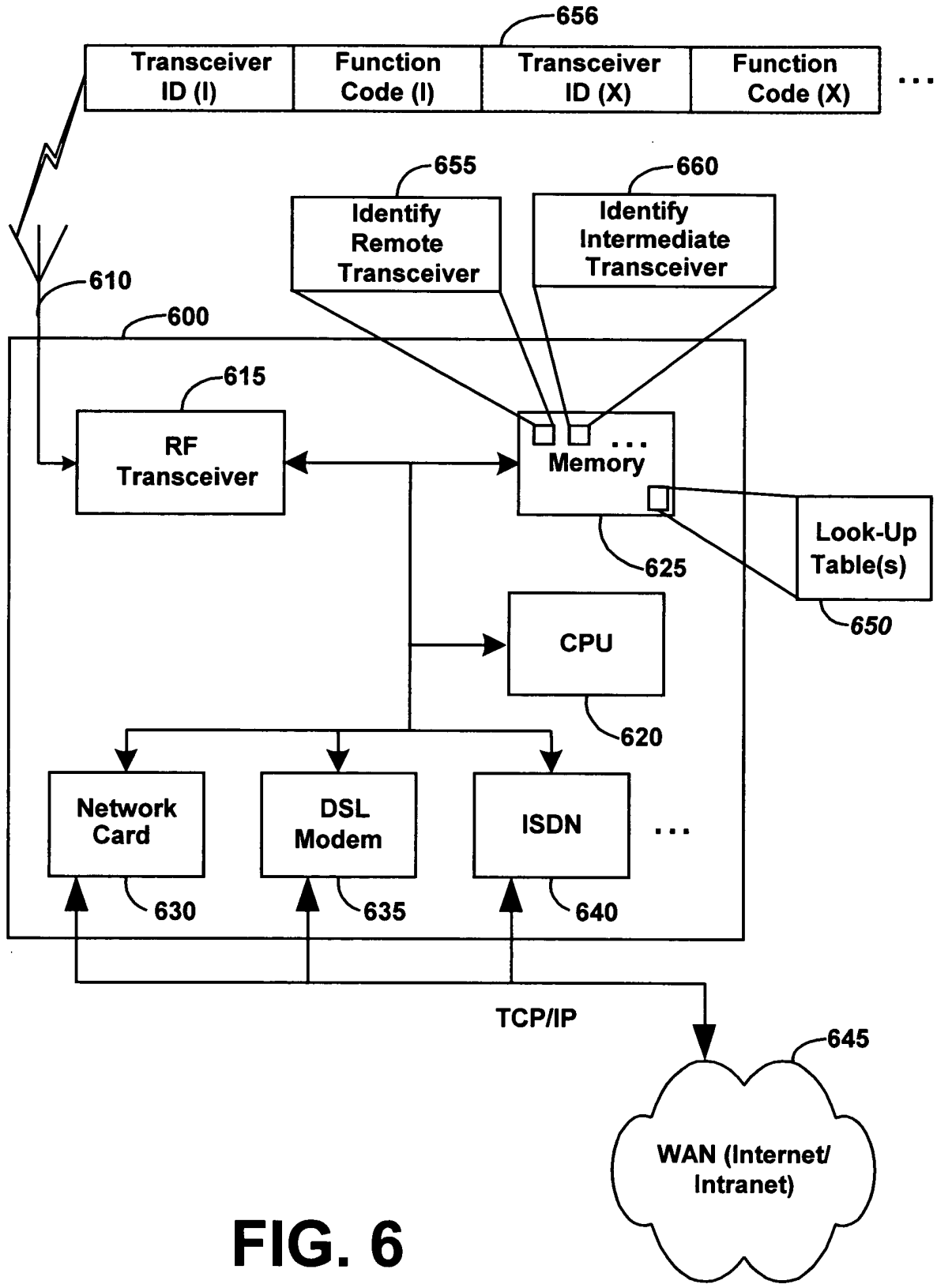
656
Transceiver ID (I)
Function Code (I)
Transceiver ID (X)
Function Code (X)
655
Identify Remote Transceiver
660
Identify Intermediate Transceiver
610
600
615
RF Transceiver
Memory
625
Look-Up Table(s)
650
CPU
620
Network Card
630
DSL Modem
635
ISDN
640
TCP/IP
645
WAN (Internet/ Intranet)

FIG. 6

FIG. 7 Message Structure

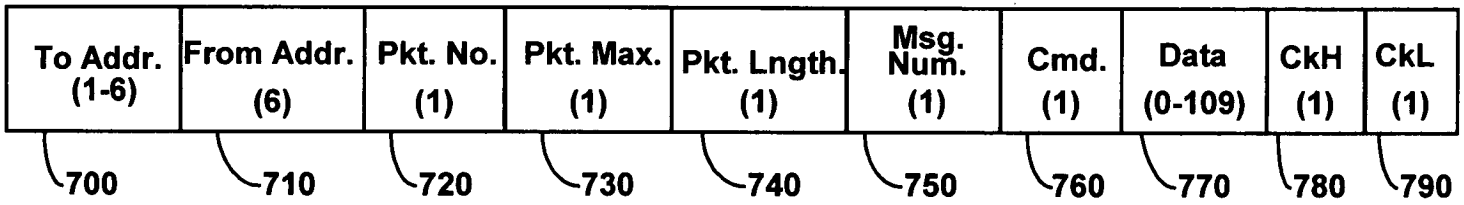

FIG. 8

"To Address"	Byte Assignment:
MSB - Byte 1 Device Type	FF-F0 (16) - Broadcast All Devices (1 Byte Address) EF-1F (224) - Device Type Base (2 to 6 Byte Address) 0F-00 (16) - Personal Transceiver Identification (6 Byte Address)
Byte 2 Mfg./Owner ID	FF-F0 (16) - Broadcast all Devices (Byte 1 Type) (2 Byte Broadcast Address) EF-00 (240) - Mfg./Owner Code Identification Number
Byte 3 Mfg./Owner Extension ID	FF-F0 (16) - Broadcast all Devices (Byte 1 & Byte 2 Type) (3 Byte Broadcast Address) EF-00 (240) - Device Type/Mfg./Owner Code ID Number
Byte 4	FF-F0 (16) - Broadcast all Devices (Byte 1 & Byte 2 Type) (4 Byte Broadcast Address) EF-00 (240) - ID Number
Byte 5	(FF-00) 256 - Identification Number
Byte 6	(FF-00) 256 - Identification Number

Sample Messages

Central Server to Personal Transceiver - Broadcast Message - FF (Emergency)

Byte Count = 12

910

To Addr. (FF)	From Addr. (12345678)	Pkt. No. (00)	Pkt. Max. (00)	Pkt. Lngth. (0C)	Cmd. (FF)	CkH (02)	CkL (9E)

First Transceiver to Repeater (Transceiver) Broadcast Message - FF (Emergency)

Byte Count = 17

920

To Addr. (F0)	From Addr. (12345678)	Pkt. No. (00)	Pkt. Max. (00)	Pkt. Lngth. (11)	Cmd. (FF)		CkH (03)	CkL (A0)

Data (A000123456)

Note: Additional Transceiver Re-Broadcasts do not change the message. The messages are simply received and re-broadcast.

Message to Device "A0" From Device "E1" Command - "08" (Respond to PING) Response will reverse "To" and "From" Addresses

Byte Count = 17

930

To Addr. (A012345678)	From Addr. (E112345678)	P # (00)	P Max. (00)	P Lngth. (11)	Cmd. (08)	Data (A5)	CkH (04)	CkL (67)

FIG. 9